

## REMARKS/ARGUMENTS

5            Applicants respectfully request reconsideration and allowance of the subject application.

Claims 1-30 were originally filed.

Claims 1-3, 5-7, 9-15, 17-19, 21-23, 25-30 are currently amended.

Accordingly, claims 1-30 are pending.

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### Claim Rejections – 35 USC §102(e)

#### Claims 1-30:

Claims 1-30 are rejected under 35 U.S.C. §102(e) as being anticipated by  
15    Shiratsuki et al (US6,657,185). Applicant respectfully traverses Examiner's rejection.

**With regards to claims 1-12 and 25-27,** Examiner states in pertinent part that:

[...] Shiratsuki et al teach of a pattern detector [...] in accordance with figure 12 [...]

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Claim 1, 25 have been amended to recite:

**Claim 1 (Currently amended):** An ultra-thin optical fingerprint sensor with anamorphic optics comprising:

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an image receiving panel;

an anamorphic optical lens of at least two optical magnification power;

a light source to illuminate the image receiving panel creating an illuminating light path; and

an imaging sensor; wherein the image sensor captures a light reflection from an image deposited on the image receiving panel optically compensated by the anamorphic optical lens; and

a folding mirror to fold a light reflection from an image deposited on the image capturing panel through the image capturing panel to the anamorphic lens creating a folded light path; wherein the folded light path defines a principal plane;  
wherein the illuminating light path does not lie in the principal plane.

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**Claim 25 (Currently amended):** A method for ultra-thin optical fingerprint sensor comprising of:

illuminating an image receiving panel via a light source creating an illuminating light path;

15 folding a light reflection from an image deposited on the image capturing panel through the image capturing panel to an anamorphic lens creating a folded light path;  
wherein the folded light path defines a principal plane;

wherein the illuminating light path does not lie in the principal plane;

receiving an image on ~~an~~ the image receiving panel;

20 processing the received image through ~~an~~ the anamorphic lens; and  
capturing and storing the processed image from the anamorphic lens.

Supports for these amendments are found in figures 3, 4 of the Applicant specification. Applicant respectfully submits that one of ordinary skill in the art at the time of the invention would recognize a folded light path 103 in figure 4 and that figure 4 shows a cross section view of the three dimensional drawing of figure 3.

5 Applicant respectfully submits that one of ordinary skill in the art at the time of the invention would recognize that the cross section coincides with the principal plane defined by the folded light path 103.

Applicant respectfully submits that one of ordinary skill in the art at the time of the invention would also recognize that in figure 3 the LEDS 308 illuminate the top  
10 surface of the fingerprint capturing panel 202 with an illuminating light path substantially perpendicular to the principal plane, thus does not lie in the principal plane.

Applicant respectfully submits that Shiratsuki et al do not disclose “the illuminating light path does not lie in the principal plane.” Thus claim 1, 25 as amended are not anticipated by Shiratsuki et al and are allowable.

15 Claims 5, 9, 26-27 are amended to add the same additional limitation as the amended claim1 thus are allowable.

Claim 2-4 depends on claim 1 and thus are allowable.

Claim 6-8 depends on claim 5 and thus are allowable.

Claim 10-12 depends on claim 9 and thus are allowable.

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Claim 3 is amended to recite:

**Claim 3 (Currently amended):** The ultra-thin optical fingerprint sensor of claim 1 wherein ~~a light source is provided perpendicular to the plane of the image captured the~~

illuminating light path is substantially perpendicular to the principal plane; wherein the folding mirror folds the folded light path by substantially 180 degrees.

Supports for these amendments are found in figures 3, 4 of the Applicant specification. Applicant respectfully submits that one of ordinary skill in the art at the time of the invention would recognize that in figure 3 the LEDS 308 illuminate the top surface of the fingerprint capturing panel 202 with an illuminating light path substantially perpendicular to the principal plane, from which a cross section is taken from the three dimensional drawing of figure 3 to form the two dimensional drawing of figure 4.

Support for these amendments are further found at page 7 line 21, 22 and page 8 line 1 stating “[...] LED’s 308 are preferably perpendicular to beam 103, oriented on a different plane from light path 103, horizontal lens 204, and vertical lens 206 [...]”

Applicant respectfully submits that one of ordinary skill in the art at the time of the invention would recognize that “LED’s 308” means “the illumination from LED’s 308” and “a different plane from light path 103, horizontal lens 204, and vertical lens 206” means “a different plane from the principal plane defined by light path 103, horizontal lens 204, and vertical lens 206”

Support for these amendments are further found at page 7 line 6-7 stating “[...] altering ray direction to be much greater than 90 degrees, closer to 180 degrees [...]”

Applicant respectfully submits that Shiratsuki et al do not disclose “the illuminating light path is substantially perpendicular to the principal plane.” and “altering ray direction to be much greater than 90 degrees, closer to 180 degrees.” Thus claim 3 as amended is not anticipated by Shiratsuki et al and is allowable.

Claims 7, 11, 15, 19, 23 are amended to add the same additional limitation as the amended claim 3 thus are allowable.

Claim 4 depends on claim 3 and thus is allowable.

Claim 8 depends on claim 7 and thus is allowable.

5 Claim 12 depends on claim 11 and thus is allowable.

Claim 16 depends on claim 15 and thus is allowable.

Claim 20 depends on claim 19 and thus is allowable.

Claim 24 depends on claim 23 and thus is allowable.

10 **With regards to claims 13-24 and 28-30**, Examiner states in pertinent part that:

[...] Shiratsuki et al teach of a pattern detector [...] in accordance with figure 12 [...] a bending mirror (18) to bend light reflection [...]

15 Claim 13 has been amended to recite:

**Claim 13 (Currently amended):** ~~An~~ The ultra-thin optical fingerprint sensor of claim 1 further ~~with anamorphic optics~~ comprising:

~~an image receiving panel;~~

20 ~~an anamorphic optical lens of at least two optical magnification powers;~~

~~an imaging sensor; wherein the image sensor captures a light reflection from an image deposited on the image capturing panel optically compensated by the anamorphic optical lens;~~

25 ~~a folding mirror to fold a light reflection from an image deposited on the image capturing panel through the image capturing panel to the anamorphic lens; and~~

a bending mirror to bend a light reflection from the anamorphic lens to the  
imageing sensor.

5 Claim 1 has been amended to add additional limitation to differentiate from  
Shratsuki et al.

Claim 13 as amended depends on claim 1 and thus is allowable.

Claims 14-15 as amended depend on claim 13 and thus are allowable.

Claim 16 as amended depends on claim 15 and thus is allowable.

10 Claim 5 has been amended to add additional limitation to differentiate from  
Shratsuki et al.

Claims 17 as amended depends on claim 5 and thus is allowable.

Claims 18-19 as amended depend on claim 17 and thus are allowable.

Claim 20 as amended depends on claim 19 and thus is allowable.

15 Claim 9 has been amended to add additional limitation to differentiate from  
Shratsuki et al.

Claims 21 as amended depends on claim 5 and thus is allowable.

Claims 22-23 amended depend on claim 21 and thus are allowable.

20 Claim 24 as amended depends on claim 23 and thus is allowable.

Claims 25-27 have been amended to add additional limitation to differentiate  
from Shratsuiki et al.

Claim 28 depends on claim 25 and thus is allowable.

Claim 29 depends on claim 26 and thus is allowable.

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Claim 30 depends on claim 27 and thus is allowable.

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## CONCLUSION

In view of the foregoing, Applicant believes that all of the claims 1-30 are now in condition for allowance and respectfully requests the Examiner to issue a timely Notice of Allowance. If for any reason, the Examiner believes any of the claims are not in condition for allowance, he is encouraged to phone the undersigned at (650) 325-4999 so that any remaining issues may be resolved.

The above changes are believed not to add new matter, as support is found in the specification.

Respectfully submitted,

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